

## Abstract

A principal component analysis or an independent component analysis is conducted on the living body signals, e.g., local cerebral blood amount change signals obtained by the living body optical measurement to extract and display multiple component signals thereof. Signals other than the component signals containing noise are selected from these component signals automatically or manually, and the local cerebral blood amount change signals are reconstructed by using selected signals. The reconstructed signals is displayed and further subjected to the component analysis or the reconstruction as appropriate, and used for the profiling of information necessary for the diagnosis. Consequently, high-precision target signals can be obtained by completely removing external noise included in the living body signals, particularly the noise which cannot be adequately removed by the moving average and the filtering processings.